

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

SEQUENCE LISTING

Information for SEQ ID NO: 1 rP40

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 344 amino acids, 1032 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

```

      1
N - Met Lys Ala Ile Phe Val Leu Asn Ala Ala Pro Lys
5'- ATG AAA GCA ATT TTC GTA CTG AAT GCG GCT CCG AAA
      30
Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser Gln Tyr His Asp Thr
GAT AAC ACC TGG TAT GCA GGT GGT AAA CTG GGT TGG TCC CAG TAT CAC GAC ACC
      48
Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn Gly Pro Thr Arg Asn Asp Gln
GGT TTC TAC GGT AAC GGT TTC CAG AAC AAC AAC GGT CCG ACC CGT AAC GAT CAG
      66
Leu Gly Ala Gly Ala Phe Gly Gly Tyr Gln Val Asn Pro Tyr Leu Gly Phe Glu
CTT GGT GCT GGT GCG TTC GGT GGT TAC CAG GTT AAC CCG TAC CTC GGT TTC GAA
      84
Met Gly Tyr Asp Trp Leu Gly Arg Met Ala Tyr Lys Gly Ser Val Asp Asn Gly
ATG GGT TAT GAC TGG CTG GCG CGT ATG GCA TAT AAA GCG AGC GTT GAC AAC GGT
      102
Ala Phe Lys Ala Gln Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr
GCT TTC AAA GCT CAG GCG GTT CAG CTG ACC GCT AAA CTG GGT TAC CCG ATC ACT
      120
Asp Asp Leu Asp Ile Tyr Thr Arg Leu Gly Gly Met Val Trp Arg Ala Asp Ser
GAC GAT CTG GAC ATC TAC ACC CGT CTG GCG GCG ATG GTT TGG CCG GCT GAC TCC
      138
Lys Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly Val
AAA GCG AAC TAC GCT TCT ACC GCG GTT TCC CGT AGC GAA CAC GAC ACT GCG GTT
      156
Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp Ile Ala Thr
TCC CCA GTA TTT GCT GCG GCG GTA GAG TGG GCT GTT ACT CGT GAC ATC GCT ACC
      174
Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala Gly Thr Val Gly Thr
CGT CTG GAA TAC CAG TGG GTT AAC AAC ATC GCG GAC GCG GCG ACT GTG GGT ACC
      192
Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val Ser Tyr Arg Phe Gly Gln Glu
CGT CCT GAT AAC GCG ATG CTG AGC CTG GCG GTT TCC TAC CCG TTC GGT CAG GAA
      210
Asp Ala Ala Pro Val Val Ala Pro Ala Pro Ala Pro Ala Pro Glu Val Ala Thr
GAT GCT GCA CCG GTT GTT GCT CCG GCT CCG GCT CCG GCT CCG GAA GTG GCT ACC
      228
Lys His Phe Thr Leu Lys Ser Asp Val Leu Phe Asn Phe Asn Lys Ala Thr Leu
AAG CAC TTC ACC CTG AAG TCT GAC GTT CTG TTC AAC TTC AAC AAA GCT ACC CTG
      246
Lys Pro Glu Gly Gln Gln Ala Leu Asp Gln Leu Tyr Thr Gln Leu Ser Asn Met
AAA CCG GAA GGT CAG CAG GCT CTG GAT CAG CTG TAC ACT CAG CTG AGC AAC ATG
      264
Asp Pro Lys Asp Gly Ser Ala Val Val Leu Gly Tyr Thr Asp Arg Ile Gly Ser
GAT CCG AAA GAC GGT TCC GCT GTT GTT CTG GCG TAC ACC GAC CCG ATC GGT TCC

```

282
 Glu Ala Tyr Asn Gln Gln Leu Ser Glu Lys Arg Ala Gln Ser Val Val Asp Tyr
 GAA GCT TAC AAC CAG CAG CTG TCT GAG AAA CGT GCT CAG TCC GTC GTT GAC TAC
 300
 Leu Val Ala Lys Gly Ile Pro Ala Gly Lys Ile Ser Ala Arg Gly Met Gly Glu
 CTG GTT GCT AAA GGC ATC CCG GCT GGC AAA ATC TCC GCT CGC GGC ATG GGT GAA
 318
 Ser Asn Pro Val Thr Gly Asn Thr Cys Asp Asn Val Lys Ala Arg Ala Ala Leu
 TCC AAC CCG GTT ACT GGC AAC ACC TGT GAC AAC GTG AAA GCT CGC GCT GCC CTG
 336
 Ile Asp Cys Leu Ala Pro Asp Arg Arg Val Glu Ile Glu Val Lys Gly Tyr Lys
 ATC GAT TGC CTG GCT CCG GAT CGT CGT GTA GAG ATC GAA GTT AAA GGC TAC AAA
 344
 Glu Val Val Thr Gln Pro Gln Ala
 GAA GTT GTA ACT CAG CCT CAG GCT

Information for SEQ ID NO: 2 G2A

SEQUENCE TYPE: amino acids and nucleotides
 SEQUENCE LENGTH: 101 amino acids, 303 nucleotides
 STRANDEDNESS: single
 TOPOLOGY: linear
 MOLECULE TYPE: protein

130
 N - Thr Val Lys Thr Lys Asn Thr Thr Thr Thr Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys
 5'- ACC GTG AAA ACC AAA APC ACC ACG ACC ACC CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA
 150
 Gln Arg Gln Asn Lys Pro Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe
 CAG CGT CAG APC AAA CCG CCG AAC AAA CCG APC APC GAT TTC CAT TTC GAA GTG TTC AAC TTC
 171 173 176 182 186
 Val Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn
 GTG CCG TGC AGC ATC TGC AGC APC APC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG APC
 192
 Lys Lys Pro Gly Lys Lys Thr Thr Thr Thr Lys Pro Thr Lys Lys Pro Thr Phe Lys Thr Thr Lys
 AAA AAA CCG GGC AAA AAA ACC ACG ACC AAA CCG ACC AAA AAA CCG ACC TTC AAA ACC ACC AAA
 213 230
 Lys Asp His Lys Pro Gln Thr Thr Lys Pro Lys Glu Val Pro Thr Thr Lys Pro - C
 AAA GAT CAT AAA CCG CAG ACC ACC AAA CCG AAA GAA GTG CCG ACC ACC AAA CCG - 3'

Information for SEQ ID NO: 3 G2B

SEQUENCE TYPE: amino acids and nucleotides
 SEQUENCE LENGTH: 101 amino acids, 303 nucleotides
 STRANDEDNESS: single
 TOPOLOGY: linear
 MOLECULE TYPE: protein

Publ. No. WO 99/49892

N - Thr Ala Gln Thr Lys Gly Arg Ile Thr Thr Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys
5' - ACC GGG CAG ACC AAA GGC CGT ATC ACC ACC AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA
150
Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe
ACG CGT AGC AAA AAC CCG CCG AAA AAA CCG AAA GGT GGT TAC CAC TTC GAA GTC TTC AAC TTC

Val Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser
GTG CCC TGC AGC ATC TGC GCC AAC AAC CAG CTG TGC AAA ACC AIC TGC AAA ACC ATC CGC ACC

Asn Lys Pro Lys Lys Lys Pro Thr Ile Lys Pro Thr Asn Lys Pro Thr Thr Lys Thr Thr Asn
ATC AAA CCG AAA AAG AAA CCG ACC ATT AAA CCG ACC AAC ACC AAA ACC ACC AAC

Lys Arg Asp Pro Lys Thr Pro Ala Lys Met Pro Lys Lys Glu Ile Ile Thr Asn - C
AAA CGT GAT CCG AAA ACC CCG GCG AAA ATG CCG AAG AAG GAA ATC ATC ACC AAC - 3'

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 101 amino acids, 303 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

N - Thr Val Lys Thr Lys Asn Thr Thr Thr Thr Thr Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys
5'- ACC GTG AAA ACC AAA AAC ACC ACG ACC ACC CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA
150
Gln Arg Gln Asn Lys Pro Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe
CAG CGT CAG AAC AAA CCG CCG AAC AAA CCG AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC
171 173 176 182 186
Val Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn
GTG CCG AGC AGC ATC TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CCG ATC CCG AAC
192
Lys Lys Pro Gly Lys Lys Thr Thr Thr Lys Pro Thr Lys Lys Pro Thr Phe Lys Thr Thr Lys
AAA AAA CCG GGC AAA AAA ACC ACG ACC AAA CCG ACC AAA AAA CCG ACC TTC AAA ACC ACC AAA
213 230
Lys Asp His Lys Pro Gln Thr Thr Lys Pro Lys Glu Val Pro Thr Thr Lys Pro - C
AAA GAT CAT AAA CCG CAG ACC ACC AAA CCG AAA GAA GTG CCG ACC ACC AAA CCG - 3'

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 101 amino acids, 303 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

130

N - Thr Ala Gln Thr Lys Gly Arg Ile Thr Thr Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys
 5'- ACC GCG CAG ACC AAA GGC CGT ATC ACC ACC AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA
 150

Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe
 AGC CGT ACC AAA AAC CCG CCG AAA AAA CCG AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC
 171 173 176 182 186

Val Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser
 GTG CCG ACC AGC ATC TGC GGC AAC AAC CAG CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG AGC

192

Asn Lys Pro Lys Lys Lys Pro Thr Ile Lys Pro Thr Asn Lys Pro Thr Thr Lys Thr Thr Asn
 AAC AAA CCG AAA AAG AAA CCG ACC ATC AAA CCG ACC AAC AAA CCG ACC AAA ACC AAC AAC
 213 230

Lys Arg Asp Pro Lys Thr Pro Ala Lys Met Pro Lys Lys Glu Ile Ile Thr Asn - C
 AAA CGT GAT CCG AAA ACC CCG GCG AAA ATG CCG AAG AAG GAA ATC ATC ACC AAC - 3'

Information for SEQ ID NO: 6

G1ACys

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 14 amino acids, 42 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187
 N - Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys - C
 5'- AGC ATC TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA - 3'

Information for SEQ ID NO: 7

G1BCys

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 14 amino acids, 42 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187
 N - Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys - C
 5'- AGC ATC TGC GGC AAC AAC CAG CTG TGC AAA AGC ATC TGC AAA - 3'

Information for SEQ ID NO: 8

G1A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 14 amino acids, 42 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

130
 171
 176
 182
 186
 213
 230

174 176 182 186 187
N - Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys - C
5'- AGC ATC TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA - 3'

Information for SEQ ID NO: 9 G1B

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 14 amino acids, 42 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide

N - Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys - C
5'- AGC ATC TGC GGC AAC AAC CAG CTG TGC AAA AGC ATC AGC AAA - 3'

Information for SEQ ID NO: 10 G1'A

SEQUENCE TYPE: amino acids
SEQUENCE LENGTH: 14 amino acids
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide

N - Ser¹⁷⁴ Ile¹⁷⁶ Asp Ser Asn Asn Pro Thr Orn Trp Ala Ile Cys¹⁸² Lys¹⁸⁶ - C¹⁸⁷

Information for SEQ ID NO: 11 G1'B

SEQUENCE TYPE: amino acids
SEQUENCE LENGTH: 14 amino acids
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide

N - Ser Ile Asp Gly Asn Asn Gln Leu Orn Lys Ser Ile Cys Lys - C

Information for SEQ ID NO: 12 G1'A8C

SEQUENCE TYPE: amino acids
SEQUENCE LENGTH: 14 amino acids
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide

[illegible]

171 173 176 182 186 187
N - Val Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys - C
5' - GTG CCG TGC AGC ATC TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA - 3'

Information for SEQ ID NO: 16 G4A8C

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 17 amino acids, 51 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide

| | | | | | | | | | | | | | | | | | |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 171 | 173 | 176 | 182 | 186 | 187 | | | | | | | | | | | | |
| N - Val | Pro | Ser | Ser | Ile | Cys | Ser | Asn | Asn | Pro | Thr | Cys | Trp | Ala | Ile | Ser | Lys | - C |
| 5' - GTG | CCG | AGC | AGC | ATC | TGC | AGC | AAC | AAC | CCG | ACC | TGC | TGG | GCG | ATC | AGC | AAA | - 3' |

Information for SEQ ID NO: 17 G4B

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 17 amino acids, 51 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide

| | | | | | | | | | | | | | | | | | |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 171 | 173 | 176 | 182 | 186 | 187 | | | | | | | | | | | | |
| N - Val | Pro | Cys | Ser | Ile | Cys | Gly | Asn | Asn | Gln | Leu | Cys | Lys | Ser | Ile | Cys | Lys | - C |
| 5' -GTG | CCC | TGC | AGC | ATC | TGC | GGC | AAC | AAC | CAG | CTG | TGC | AAA | AGC | ATC | TGC | AAA | - 3' |

Information for SEQ ID NO: 18 G4B8C

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 17 amino acids, 51 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide

| | | | | | | | | | | | | | | | | | |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 171 | 173 | 176 | 182 | 186 | 187 | | | | | | | | | | | | |
| N - Val | Pro | Ser | Ser | Ile | Cys | Gly | Asn | Asn | Gln | Leu | Cys | Lys | Ser | Ile | Ser | Lys | - C |
| 5' -GTG | CCC | AGC | AGC | ATC | TGC | GGC | AAC | AAC | CAG | CTG | TGC | AAA | AGC | ATC | AGC | AAA | - 3' |

Information for SEQ ID NO: 19 G4'A

SEQUENCE TYPE: amino acids
SEQUENCE LENGTH: 17 amino acids
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide

| | | | | | | | | | | | | | | | | | |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 171 | 173 | 176 | 182 | 186 | 187 | | | | | | | | | | | | |
| N - Val | Pro | Asp | Ser | Ile | Asp | Ser | Asn | Asn | Pro | Thr | Orn | Trp | Ala | Ile | Orn | Lys | - C |

171 173 176 182 186 187

Information for SEQ ID NO: 20

G4'AδC

SEQUENCE TYPE: amino acids

SEQUENCE LENGTH: 17 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

171 173 176 182 186 187
N - Val Pro Ser Ser Ile Asp Ser Asn Asn Pro Thr Orn Trp Ala Ile Ser Lys - C

Information for SEQ ID NO: 21

G4'B

SEQUENCE TYPE: amino acids

SEQUENCE LENGTH: 17 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

171 173 176 182 186 187
N - Val Pro Asp Ser Ile Asp Gly Asn Asn Gln Leu Orn Lys Ser Ile Orn Lys - C

Information for SEQ ID NO: 22

G4'BδC

SEQUENCE TYPE: amino acids

SEQUENCE LENGTH: 17 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

171 173 176 182 186 187
N - Val Pro Ser Ser Ile Asp Gly Asn Asn Gln Leu Orn Lys Ser Ile Ser Lys - C

Information for SEQ ID NO: 23

G200A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 61 amino acids, 183 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

PCT/FR99/00703

140
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158 173 176
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC
 177 182 186
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys Lys Pro Gly
 AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG AAC AAA AAA CCG GGC
 196 200
 Lys Lys Thr Thr Thr - C
 AAA AAA ACC ACG ACC - 3'

Information for SEQ ID NO: 24 G198A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 59 amino acids, 177 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158 173 176
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC
 177 182 186
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys Lys Pro Gly
 AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG AAC AAA AAA CCG GGC
 196 198
 Lys Lys Thr - C
 AAA AAA ACC - 3'

Information for SEQ ID NO: 25 G196A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 57 amino acids, 171 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158 173 176
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC
 177 182 186
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys Lys Pro Gly
 AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG AAC AAA AAA CCG GGC
 196
 Lys - C
 AAA - 3'

Information for SEQ ID NO: 26 G194A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 55 amino acids, 165 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158 173 176
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC
 177 182 186 194
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys Lys Pro - C
 AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG AAC AAA AAA CCG - 3'

Information for SEQ ID NO: 27 G192A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 52 amino acids, 159 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158 173 176
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC
 177 182 186 192
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys - C
 AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG AAC AAA - 3'

Information for SEQ ID NO: 28 G6A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 51 amino acids, 153 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158 173 176
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC

Information for SEO ID NO: 29 G7A

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 158 | | | | | | | | | | | | | | | | | 173 | |
| N - | Lys | Pro | Asn | Asn | Asp | Phe | His | Phe | Glu | Val | Phe | Asn | Phe | Val | Pro | Cys | Ser | Ile |
| 5'- | AAA | CCG | AAC | AAC | GAT | TTC | CAT | TTC | GAA | GIG | TTC | AAC | TTC | GIG | CCG | TGC | AGC | ATC |
| 176 | | | | | | 182 | | | | 186 | | | | 190 | | | | |
| Cys | Ser | Asn | Asn | Pro | Thr | Cys | Trp | Ala | Ile | Cys | Lys | Arg | Ile | Pro | - | C | | |
| TGC | AGC | AAC | AAC | CCG | ACC | TGC | TGG | GCG | ATC | TGC | AAA | CGT | ATC | CCG | - | 3' | | |

Information for SEQ ID NO: 30 G200A8C

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 61 amino acids, 183 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

[illegible]

Information for SEQ ID NO: 31 G198AδC

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 59 amino acids, 177 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

140
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158 173 176
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC TGC
 177 182 186
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn Lys Lys Pro Gly
 AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CGT ATC CCG AAC AAA AAA CCG GGC
 196 198
 Lys Lys Thr - C
 AAA AAA ACC - 3'

Information for SEQ ID NO: 32 G196A8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 57 amino acids, 171 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158 173 176
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC TGC
 177 182 186
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn Lys Lys Pro Gly
 AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CGT ATC CCG AAC AAA AAA CCG GGC
 196
 Lys - C
 AAA - 3'

Information for SEQ ID NO: 33 G194A8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 55 amino acids, 165 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158 173 176
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC TGC
 177 182 186 194
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn Lys Lys Pro - C
 AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CGT ATC CCG AAC AAA AAA CCG - 3'

Information for SEQ ID NO: 34

G192AδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 53 amino acids, 159 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC TGC
 177
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn Lys - C
 AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CGT ATC CCG AAC AAA - 3'

Information for SEQ ID NO: 35

G6AδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 51 amino acids, 153 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
 158
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC TGC
 177
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro - C
 AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CGT ATC CCG - 3'

Information for SEQ ID NO: 36

G7AδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 33 amino acids, 99 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

158
 N - Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile
 5'- AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC
 176
 Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro - C
 TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CGT ATC CCG - 3'

G200B

MOLECULE TYPE: protein

Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys Lys Pro Thr Ile- C
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG AGC AAC AAA CCG AAA AAG AAA CCG ACC ATC- 3'

G198B

MOLECULE TYPE: protein

Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys Lys Pro - C
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG AGC AAC AAA CCG AAA AAG AAA CCG - 3'

G196B

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro
5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG
160 173 176
Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly Asn Asn Gln
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC GGC AAC AAC CAG
182 186 196
Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys - C
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG AGC AAC AAA CCG AAA AGC - 3'

Information for SEQ ID NO: 40 G194B

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 55 amino acids, 165 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro
5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG
160 173 176
Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly Asn Asn Gln
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC GGC AAC AAC CAG
182 186 194
Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn Lys Pro - C
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG AGC AAC AAA CCG - 3'

Information for SEQ ID NO: 41 G192B

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 53 amino acids, 159 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro
5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG
160 173 176
Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly Asn Asn Gln
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC GGC AAC AAC CAG
182 186 192
Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn - C
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG AGC AAC - 3'

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 51 amino acids, 153 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

140
N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro
5' - AGC ACC CAG ACC APC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG
160
Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly Asn Asn Gln
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC GGC APC APC CAG
182 186 190
Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro - C
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG - 3'

Information for SEQ ID NO: 43 G7B

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 33 amino acids, 99 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

158
 N - Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly
 5'- AAA CCG AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCC TGC AGC ATC TGC GGC
 182
 186
 190
 Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro - C
 AAC AAC CAG CTG TGC AAA AGC ATC TGC AAA AGC ATC CCG - 3'

Information for SEQ ID NO: 44 G200BdC

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 61 amino acids, 183 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro
5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA APC CCG CCG AAA AAA CCG
160 173 176

Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly Asn Asn Gln
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG ACC AGC ATC TGC GGC APC APC CAG
182 186 200

Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys Lys Pro Thr Ile C
CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG AGC AAC AAA CCG AAA AAG AAA CCG ACC ATC- 3'

Information for SEQ ID NO: 45

G198BδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 59 amino acids, 177 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro

5'- AGC ACC CAG ACC APC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG

160

173

176

Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly Asn Asn Gln

AAA GAT GAT TAC CAC TTC GAA GTG TTC APC TTC GTG CCG AGC AGC ATC TGC GGC APC APC CAG

182

186

198

Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys Lys Pro - C

CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG AGC APC AAA CCG AAA AAG AAA CCG - 3'

Information for SEQ ID NO: 46

G196BδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 57 amino acids, 171 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro

5'- AGC ACC CAG ACC APC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG

160

173

176

Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly Asn Asn Gln

AAA GAT GAT TAC CAC TTC GAA GTG TTC APC TTC GTG CCG AGC AGC ATC TGC GGC APC APC CAG

182

186

196

Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys - C

CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG AGC AYC AAA CCG AAA AAG - 3'

Information for SEQ ID NO: 47

G194BδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 55 amino acids, 165 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro
 5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG
 160 173 176
 Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly Asn Asn Gln
 AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCC AGC AGC ATC TGC GGC AAC AAC CAG
 182 186 194
 Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser Asn Lys Pro - C
 CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG AGC AAC AAA CCG - 3'

Information for SEQ ID NO: 48

G192B8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 53 amino acids, 159 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro
 5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG
 160 173 176
 Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly Asn Asn Gln
 AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCC AGC AGC ATC TGC GGC AAC AAC CAG
 182 186 192
 Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser Asn - C
 CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG AGC AAC - 3'

Information for SEQ ID NO: 49

G6B8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 51 amino acids, 153 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro
 5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG
 160 173 176
 Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly Asn Asn Gln
 AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCC AGC AGC ATC TGC GGC AAC AAC CAG
 182 186 190
 Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro - C
 CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG - 3'

Information for SEQ ID NO: 50

G7B8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 33 amino acids, 99 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

158 173 176
 N - Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly
 5'- AAA CCG AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCC AGC AGC ATC TGC GGC
 182 186 190
 Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro - C
 AAC AAC CAG CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG - 3'

Information for SEQ ID NO: 51

G2V

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 101 amino acids, 303 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

130
 N - Gln Asn Arg Lys Ile Lys Gly Gln Ser Thr Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn
 5'- CAA AAC AGA AAA ATC AAA GGT CAA TCA ACA CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT
 150
 Pro Ser Gly Ser Ile Pro Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr
 CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT
 171 173 176 182 186
 Val Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu
 GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG GAA
 192
 Arg Ala Pro Ser Arg Ala Pro Thr Ile Thr Leu Lys Lys Thr Pro Lys Pro Lys Thr Thr Lys
 AGA GCA CCA AGC AGA GCA CCA ACA ATC ACC CTC AAA AAG ACA CCA AAA CCA AAA ACC ACA AAA
 213 230
 Lys Pro Thr Lys Thr Thr Ile His His Arg Thr Ser Pro Glu Thr Lys Leu Gln - C
 AAG CCA ACC AAG ACA ACA ATC CAT CAC AGA ACC AGC CCA GAA ACC AAA CTG CAA - 3'

Information for SEQ ID NO: 52

G2V8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 101 amino acids, 303 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

130
 N - Gln Asn Arg Lys Ile Lys Gly Gln Ser Thr Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn
 5'- CAA AAC AGA AAA ATC AAA GGT CAA TCA ACA CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT

150

Pro Ser Gly Ser Ile Pro Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr
 CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT
 171 173 176 182 186
 Val Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu
 GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC AGC CAT ATT GAG ACG GAA
 192
 Arg Ala Pro Ser Arg Ala Pro Thr Ile Thr Leu Lys Lys Thr Pro Lys Pro Lys Thr Thr Lys
 AGA GCA CCA AGC AGA GCA CCA ACA ATC ACC CTC AAA AAG ACA CCA AAA CCA AAA ACC ACA AAA
 213 230
 Lys Pro Thr Lys Thr Thr Ile His His Arg Thr Ser Pro Glu Thr Lys Leu Gln - C
 AAG CCA ACC AAG ACA ACA ATC CAT CAC AGA ACC AGC CCA GAA ACC AAA CTG CAA - 3'

Information for SEQ ID NO: 53 G200V

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 61 amino acids, 183 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
 5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
 160 173 176
 Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu
 CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT
 182 186 200
 Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro Thr Ile - C
 GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG GAA AGA GCA CCA AGC AGA GCA CCA ACA ATC - 3'

Information for SEQ ID NO: 54 G198V

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 59 amino acids, 177 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
 5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
 160 173 176
 Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu
 CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT
 182 186 198
 Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro - C
 GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG GAA AGA GCA CCA AGC AGA GCA CCA - 3'

Information for SEQ ID NO: 55 G196V

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 57 amino acids, 171 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

140
N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
5'- CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
160 173 176
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT
182 186 196
Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg Ala Pro Ser Arg - C
GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG GAA AGA CCA CCA AGC AGA - 3'

Information for SEQ ID NO: 56 G194V

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 55 amino acids, 165 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

140
N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
5'- CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
160 173 176
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT
182 186 194
Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg Ala Pro - C
GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG GAA AGA CCA CCA - 3'

Information for SEQ ID NO: 57 G192V

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 53 amino acids, 159 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
5'- CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
160 173 176
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT
182 186 192
Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg - C
GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG GAA AGA - 3'

Information for SEQ ID NO: 58 G6V

SEQUENCE LENGTH: 51 amino acids, 153 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
5'- CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
160 173 176
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT
182 186 190
Ala Cys Leu Ser Leu Cys His Ile Glu Thr - C
GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG - 3'

Information for SEQ ID NO: 59 G7V

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 33 amino acids, 99 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

158

173

176

N - Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys
5'- AAC CAT CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT
182 186 190
Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His Ile Glu Thr - C
GAA GGT AAT CTT GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG - 3'

Information for SEQ ID NO: 60 G200VδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 61 amino acids, 183 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

PCT/FR99/00703

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA APC CAT
160 173 176
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu
CAA GAC CAC AAC AAC TTC CAA ACA CTC CAC TAT GTT CAC AGC AGT ACA TGT GAA GGT AAT CTT
182 186 200
Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro Thr Ile - C
GCA TGC TTA TCA CTC AGC CAT ATT GAG ACG GAA AGA GCA CCA AGC AGA GCA CCA ACA ATC - 3'

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 59 amino acids, 177 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
160 173 176
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT
182 186 198
Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro - C
GCA TGC TTA TCA CTC AGC CAT ATT GAG ACG GAA AGA GCA CCA AGC AGA GCA CCA - 3'

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 57 amino acids, 171 nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
160 173 176
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT
182 186 196
Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg Ala Pro Ser Arg - C
GCA TGC TTA TCA CTC AGC CAT ATT GAG ACG GAA AGA GCA CCA AGC AGA - 3'

SEQUENCE TYPE: amino acids and nucleotides
SEQUENCE LENGTH: 55 amino acids, 165 nucleotides
STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
160 173 176
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT
182 186 194
Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg Ala Pro - C
GCA TGC TTA TCA CTC AGC CAT ATT GAG ACG GAA AGA CCA CCA - 3'

Information for SEQ ID NO: 64

G192V8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 53 amino acids, 159 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
160 173 176
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT
182 186 192
Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg - C
GCA TGC TTA TCA CTC AGC CAT ATT GAG ACG GAA AGA - 3'

Information for SEQ ID NO: 65

G6V8C

SEQUENCE LENGTH: 51 amino acids, 153 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His
5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT
160 173 176
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT
182 186 190
Ala Cys Leu Ser Leu Ser His Ile Glu Thr - C
GCA TGC TTA TCA CTC AGC CAT ATT GAG ACG - 3'

Information for SEQ ID NO: 66

G7V8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 33 amino acids, 99 nucleotides

STRANDEDNESS: single
 TOPOLOGY: linear
 MOLECULE TYPE: protein

158 173 176
 N - Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys
 5'- APC CAT CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT
 182 186 190
 Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His Ile Glu Thr - C
 GAA GGT AAT CTT GCA TGC TTA TCA CTC AGC CAT ATT GAG AGC - 3'

Information for SEQ ID NO: 67 G4V

SEQUENCE TYPE: amino acids and nucleotides
 SEQUENCE LENGTH: 17 amino acids, 51 nucleotides
 STRANDEDNESS: single
 TOPOLOGY: linear
 MOLECULE TYPE: peptide

171 173 176 182 186 187
 N - Val Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His - C
 5'- GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC TGC CAT - 3'

Information for SEQ ID NO: 68 G4V8C

SEQUENCE TYPE: amino acids and nucleotides
 SEQUENCE LENGTH: 17 amino acids, 51 nucleotides
 STRANDEDNESS: single
 TOPOLOGY: linear
 MOLECULE TYPE: peptide

171 173 176 182 186 187
 N - Val Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His - C
 5'- GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC AGC CAT - 3'

Information for SEQ ID NO: 69 G4'V

SEQUENCE TYPE: amino acids
 SEQUENCE LENGTH: 17 amino acids
 STRANDEDNESS: single
 TOPOLOGY: linear
 MOLECULE TYPE: peptide

171 173 176 182 186 187
 N - Val Pro Asp Ser Thr Asp Glu Gly Asn Leu Ala Orn Leu Ser Leu Orn His - C

Information for SEQ ID NO: 70 G4'V8C

SEQUENCE TYPE: amino acids

Publ. No. WO 99/49892

SEQUENCE LENGTH: 17 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

171 173 176 182 186 187
N - Val Pro Ser Ser Thr Asp Glu Gly Asn Leu Ala Orn Leu Ser Leu Ser His - C

Information for SEQ ID NO: 71 G1V

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 14 amino acids, 42 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187
N - Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His - C
5'- AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC TGC CAT - 3'

Information for SEQ ID NO: 72 G1V8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 14 amino acids, 42 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187
N - Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His - C
5'- AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC AGC CAT - 3'

Information for SEQ ID NO: 73 G1'V8C

SEQUENCE TYPE: amino acids

SEQUENCE LENGTH: 14 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187
N - Ser Thr Asp Glu Gly Asn Leu Ala Orn Leu Ser Leu Ser His - C

Information for SEQ ID NO: 74 G1'

SEQUENCE TYPE: amino acids

WO 99/49892

- 27 -

PCT/FR99/00703

SEQUENCE LENGTH: 15 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187
N - Ser Ile Asp Ser Asn Asn Pro Thr Orn Trp Ala Ile Ser Lys Cys - C

FOOFOO" 00E49500